

## Section 1 - Chemical Product and Company Identification

**Product Name** Fiber Glass Insulation  
**CAS#** Mixture/None Assigned  
**Generic Name** Fiber Glass Wool Product  
**Formula** Mixture  
**Chemical Name:** Mixture  
**Hazard Label** FBG-003

**Manufacturer Information**

Johns Manville Insulation Group  
 Residential Insulation Division  
 P.O. Box 5108  
 Denver, CO 80127, CO 80127

Telephone: 303-978-2000  
 Internet Address: <http://www.jm.com>  
 Emergency: 800-424-9300 (Chemtrec)

**Trade Names:** All Purpose Insulation; Basement Rolls; Basement Wall Insulation; Best-Pak™; Blended Blowing Wool; CFI; Chickinsul; ComfortTherm™; Duct-Wrap Roll; EasyFit™; Fiber Glass Roll; Fiber Glass Building Insulation; Flexible Insulation; GoldLine™; GoldLine MH Blow-In Fiber Glass; Grid-SHIELD™; High Performance Batts; High-Density Blowing Wool; Insul-SHIELD®; Insul-SHIELD® Black; Insul-SHIELD™ Black (Coated); ITP Concrete Wall Insulation™; ITP Econoliner™; ITP Thermoliner®; Laminated Metal Building Insulation; Masonry Wall Batts; Microlite®; Microlite® L; Micro-Pak®™; Mobinsul®; Multi-Purpose Insulation; OEM Rolls; Pan-Insul; Panel-Deck; PAT Board; PEBS Blanket®; ProPak™; Residential Rolls; Rich-R® Blowing Wool; Rich-R® Gold; Rich-R® Plus Blowing Wool; Sill Sealer; SingleTab NS®; Specialty Fiber Glass; Sound Attenuation Batts; Sound Control Batts; Sound-SHIELD®™; Spin Glas®; Suspend-R® Board; Theatre-SHIELD™; Thermal-SHIELD™; UMBI®™; Unfaced Sound Control Batts; Water Heater Blanket;

## Section 2 - Composition / Information on Ingredients

CAS #	Component	Percent
65997-17-3	Fiber Glass Wool	85-98
25104-55-6	Urea extended phenol-formaldehyde resin (cured)	2-15
Not Available	Foil/kraft, kraft, FSK, polyethylene, PSK, and various Metal Buidling facings	0-6.7
1309-64-4	Antimony trioxide (may be in facing or adhesive)*	>0.1

**Component Related Regulatory Information**

This product may be regulated, have exposure limits or other information identified as the following: Glass wool fiber, Antimony (7440-36-0).

**Additional Component Information**

\* Note: Antimony trioxide (fire retardant) may be present in the facings and/or adhesives. Occupational exposure to airborne antimony trioxide is not expected to occur due to product form(s) and intended use(s). Exposure limit is given for reference only.

## Section 3 - Hazards Identification

Emergency Overview

**APPEARANCE AND ODOR:** Gold to yellow fibrous glass board, batt, blanket, or loose-fill insulation with or without kraft, FSK, or other facings. No significant odor.

Under normal conditions of use, this product is not expected to create any unusual emergency hazards.

Inhalation of excessive amounts of dust from the product may cause temporary upper respiratory irritation and/or congestion--remove affected individuals to fresh air.

Skin irritation may be treated by gently washing affected area with soap and warm water.

Eye irritation may be treated by flushing eyes with large amounts of water. If irritation persists, contact a physician.

In the event of fire, use normal fire fighting procedures to prevent inhalation of smoke and gases.

**Potential Health Effects**

**Summary**

Breathing dust from this product may cause a scratchy throat, congestion, and slight coughing. Getting dust or fibers on the skin, or in the eyes may cause itching, rash, or redness. Breathing large amounts of dust or fibers from this product may lead to chronic health effects as discussed in Section 11 of this material safety data sheet.

**Inhalation**

Irritation of the upper respiratory tract (scratchy throat), coughing, and congestion may occur in extreme exposures.

**Skin**

Temporary irritation (itching) or redness may occur.

**Absorption**

Not applicable

**Ingestion**

This product is not intended to be ingested or eaten under normal conditions of use. If ingested, it may cause temporary irritation to the gastrointestinal (GI) tract, especially the stomach.

**Eyes**

Temporary irritation (itching) or redness may occur.

**Target Organs**

Upper respiratory passages, skin, and eyes.

**Primary Routes of Entry (Exposure)**

Inhalation (breathing dust), skin, and eye contact.

**Medical Conditions Aggravated by Exposure**

Pre-existing chronic respiratory, skin, or eye diseases or conditions.

**Section 4 - First Aid Measures**

**First Aid: Inhalation**

Remove to fresh air. Drink water to clear throat, and blow nose to remove dust.

**First Aid: Skin**

Wash gently with soap and warm water to remove dust. Wash hands before eating or using the restroom.

**First Aid: Ingestion**

Product is not intended to be ingested or eaten. If this product is ingested, irritation of the gastrointestinal (GI) tract may occur, and should be treated symptomatically. Rinse mouth with water to remove fibers, and drink plenty of water to help reduce the irritation. No chronic effects are expected following ingestion.

**First Aid: Eyes**

Do not rub or scratch your eyes. Dust particles may cause the eye to be scratched. Flush eyes with large amounts of water for 5-15 minutes. If irritation persists, contact a medical professional.

**First Aid: Notes to Physician**

This product is a mechanical irritant, and is not expected to produce any chronic health effects from acute exposures. Treatment should be directed toward removing the source of irritation with symptomatic treatment as necessary.

**Section 5 - Fire Fighting Measures**

**Flash Point:** Not applicable

**Upper Flammable Limit (UFL):** Not applicable

**Auto Ignition:** Not determined

**Rate of Burning:** Not determined

**General Fire Hazards**

There is no potential for fire or explosion.

**Extinguishing Media**

Carbon dioxide (CO2), water, water fog, dry chemical.

**Fire Fighting Equipment/Instructions**

No special procedures are expected to be necessary for this product. Normal fire fighting procedures should be followed to avoid inhalation of smoke and gases.

**Method Used:** Not applicable

**Lower Flammable Limit (LFL):** Not applicable

**Flammability Classification:** Not determined

**Section 6 - Accidental Release Measures**

**Containment Procedures**

Pick up large pieces. Vacuum dusts. If sweeping is necessary, use a dust suppressant such as water. Do not dry sweep dust accumulation or use compressed air for clean-up. These procedures will help to minimize potential exposures.

**Clean-Up Procedures**

Wastes are not hazardous as defined by the Resource Conservation and Recovery Act (RCRA; 40 CFR 261). Comply with state and local regulations for disposal of these products. If you are unsure of the regulations, contact your local Public Health Department, or the local office of the Environmental Protection Agency (EPA).

**Section 7 - Handling and Storage****Handling Procedures**

Use protective equipment as described in Section 8 of this material safety data sheet when handling uncontained material.

**Storage Procedures**

Warehouse storage should be in accordance with package directions, if any. Material should be kept dry, and protected from the elements.

**Section 8 - Exposure Controls / Personal Protection****Exposure Guidelines****A: General Product Information**

Glass wool fiber, OSHA voluntary Health and Safety Partnership Program (HSPP): 1 f/cc TWA for fibers longer than 5 µm with a diameter less than 3 µm.

Protective equipment should be used as necessary to prevent irritation of the throat, eyes, and skin, and to keep exposures below the applicable exposure limits identified in Section 8.

**B: Component Exposure Limits****Fiber Glass Wool (65997-17-3)**

- ACGIH: 1 f/cc TWA for fibers longer than 5 µm with a diameter less than 3 µm; (Listed under 'Synthetic vitreous fibers') (related to Glass Wool Fiber)
- OSHA: 5 mg/m<sup>3</sup> TWA respirable fraction (OSHA)  
15 mg/m<sup>3</sup> TWA total dust (OSHA)  
(related to Glass Wool Fiber)

**Antimony trioxide (may be in facing or adhesive)\* (1309-64-4)**

- ACGIH: 0.5 mg/m<sup>3</sup> TWA (as Sb) (related to Antimony)
- OSHA: as Sb: 0.5 mg/m<sup>3</sup> TWA (related to Antimony)

**PERSONAL PROTECTIVE EQUIPMENT****Personal Protective Equipment: Eyes/Face**

Safety glasses with sideshields are recommended to keep dust out of the eyes.

**Personal Protective Equipment: Skin**

Leather or cotton gloves should be worn to prevent skin contact and irritation. Barrier creams may also be used to reduce skin contact and irritation caused by fiber glass.

**Personal Protective Equipment: Respiratory**

A respirator should be used if ventilation is unavailable, or is inadequate for keeping dust and fiber levels below the applicable exposure limits. In those cases, use a NIOSH-certified disposable or reusable particulate respirator with an efficiency rating of N95 or higher (under 42 CFR 84) when working with this product. For exposures up to five times the established exposure limits use a quarter-mask respirator, rated N95 or higher; and for exposures up to ten times the established exposure limits use a half-mask respirator (e.g., MSA's DM-11, Racal's Delta N95, 3M's 8210), rated N95 or higher. Operations such as sawing, blowing, tear out, and spraying may generate airborne fiber concentrations requiring a higher level of respiratory protection. For exposures up to 50 times the established exposure limits use a full-face respirator, rated N99 or higher.

**Ventilation**

In fixed manufacturing settings, local exhaust ventilation should be provided at areas of cutting to remove airborne dust and fibers. General dilution ventilation should be provided as necessary to keep airborne dust and fibers below the applicable exposure limits and guidelines. The need for ventilation systems should be evaluated by a professional industrial hygienist, while the design of specific ventilation systems should be conducted by a professional engineer.

**Personal Protective Equipment: General**

Loose-fitting, long-sleeved clothing should be worn to protect skin from irritation. Exposed skin areas should be washed with soap and warm water after handling or working with fiber glass. Clothing should be washed separately from other clothes, and the washer should be rinsed thoroughly (run empty for a complete wash cycle). This will reduce the chances of fiber glass being transferred to other clothing.

**Section 9 - Physical & Chemical Properties**

<b>Appearance:</b>	Gold to yellow fibrous glass board, batt, blanket, or loose-fill insulation with or without kraft, FSK, or other facings;	<b>Odor:</b>	No significant odor
<b>Physical State:</b>	Solid	<b>pH:</b>	Not applicable
<b>Vapor Pressure:</b>	Not applicable	<b>Vapor Density:</b>	Not applicable
<b>Boiling Point:</b>	Not applicable	<b>Melting Point:</b>	>704°C/1300°F
<b>Solubility (H2O):</b>	Nil	<b>Specific Gravity:</b>	Variable
<b>Freezing Point:</b>	Not applicable	<b>Evaporation Rate:</b>	Not applicable
<b>Percent Volatile:</b>	0	<b>VOC:</b>	Not applicable

**Section 10 - Chemical Stability & Reactivity Information****Chemical Stability**

This is a stable material. This product is not reactive.

**Hazardous Decomposition**

The decomposition products from this material are those that would be expected from any organic (carbon-containing) material, and are mainly derived from pyrolysis, or burning, of the resin. These decomposition products may include carbon monoxide, carbon dioxide, carbon particles, and traces of formaldehyde and hydrogen cyanide.

**Hazardous Polymerization**

Will not occur.

**Section 11 - Toxicological Information****Acute Toxicity****A: General Product Information**

Dust from this product is a mechanical irritant, which means that it may cause temporary irritation or scratchiness of the throat, and/or itching of the eyes and skin.

**B: Component Analysis - LD50/LC50****Urea extended phenol-formaldehyde resin (cured) (25104-55-6)**

Oral LD50 Rat : 7 gm/kg

Oral LD50 Mouse : 7 gm/kg

**Antimony trioxide (may be in facing or adhesive)\* (1309-64-4)**

Oral LD50 Rat : >34600 mg/kg

**Carcinogenicity****A: General Product Information**

The Occupational Safety and Health Administration (OSHA), National Toxicology Program (NTP), International Agency for Research on Cancer (IARC), and American Conference of Governmental Industrial Hygienists (ACGIH) have not classified this product in its entirety as a carcinogen.

**B: Component Carcinogenicity****Fiber Glass Wool (65997-17-3)**

ACGIH: A3 - animal carcinogen (related to Glass wool fibers)

NTP: Suspect Carcinogen (related to Glasswool) (Possible Select Carcinogen)

IARC: Monograph 43, 1988 (related to Glasswool) (Group 2B (possibly carcinogenic to humans))

**Antimony trioxide (may be in facing or adhesive)\* (1309-64-4)**

ACGIH: A2 - suspected human carcinogen (production)

IARC: Monograph 47, 1989 (Group 2B (possibly carcinogenic to humans))

**Chronic Toxicity**

Antimony trioxide causes pneumoconiosis in humans. Antimony trioxide was tested for carcinogenicity by inhalation exposure in male and female rats of one strain and in female rats of another strain, producing a significant increase in the incidence of lung tumors (scirrhous and squamous-cell carcinomas and bronchioloalveolar tumors) in females in both studies. No lung tumors were seen in male rats. Both of these studies provide only qualitative evidence of carcinogenicity of antimony trioxide in rats. In 1994, Groth et al., conducted a third study using a more rigorous inhalation protocol. This study subjected rats to several test concentrations and antimony trioxide was not carcinogenic. Thus, there is only equivocal evidence for the carcinogenicity of antimony trioxide by the inhalation route. Technical limitations or exposure to high particle concentrations seriously limit interpretation of the two earlier studies. USEPA and CalEPA concluded that these studies are inadequate for use in quantitative cancer risk assessment. According to USEPA's recently proposed cancer risk assessment guidance, a margin of exposure (MOE) analysis is more appropriate when, as with antimony trioxide, the carcinogenicity of a chemical may be a secondary effect of toxicity, or of an induced physiological change. The MOE approach was adopted after conferring with CalEPA scientists involved in the Proposition 65 program who suggested using USEPA's "Proposed Guidance for Carcinogen Risk Assessment." Johns Manville had a risk analysis conducted using the MOE approach, the results indicate the potential levels of exposure to antimony trioxide in JM products pose no significant cancer risk to the end-user of these products. Antimony trioxide is classified as a possible carcinogen, Group 2B, by the International Agency for Research on Cancer (IARC).

Epidemiology of fiber glass wool manufacturing workers: In 2001, the University of Pittsburgh finalized and published the results of a historical cohort (1946-1992) study of U.S. fiber glass workers. This study represented the world's largest (32,110 workers) and most comprehensive investigation (more than a million persons-years of observation) of long-term health effects of exposure to all types of glass fibers. This study found no increase in mesotheliomas, no increase in non malignant respiratory disease (lung scarring), and no significant increase in respiratory system cancer. There was no relationship between respiratory system cancer and either duration of exposure or time since first exposure. These results are generally similar to other cohort studies conducted in the U.S., Canada and Europe.

Biosoluble glass fibers (i.e., fibers that do not persist in the lung) were tested extensively in chronic inhalation studies using laboratory rodents and did not cause any mesotheliomas, lung scarring or lung cancer. In other fiber glass studies, animals exposed by artificial means (e.g., implantation and injection) have shown development of tumors.

A detailed listing of references on fiber glass health effects can be found in the publication HSE-64C, "Health and Safety Aspects of Fiber Glass," which can be downloaded from Johns Manville's internet homepage, [www.jm.com](http://www.jm.com) (select "Health Safety and Environment").

**Section 12 - Ecological Information****Ecotoxicity****A: General Product Information**

No data available for this product.

**B: Component Analysis - Ecotoxicity - Aquatic Toxicity**

**Antimony trioxide (may be in facing or adhesive)\* (1309-64-4)**

LC50 (96 hr) fathead minnow: 833.0 mg/L.; LC50 (96 hr) bluegill: 530 mg/L.

**Section 13 - Disposal Considerations****US EPA Waste Number & Descriptions****A: General Product Information**

This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal. If you are unsure of the regulations, contact your local Public Health Department, or the local office of the EPA.

**B: Component Waste Numbers**

No EPA Waste Numbers are applicable for this product's components.

**Disposal Instructions**

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

**Section 14 - Transportation Information****US DOT Information**

**Shipping Name:** This product is not classified a hazardous material for transport.

<b>Section 15 - Regulatory Information</b>
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**US Federal Regulations****A: General Product Information**

No information on this product as a whole.

**B: Component Analysis**

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

**Antimony trioxide (may be in facing or adhesive)\* (1309-64-4)**

SARA 313: form R reporting required for 1.0% de minimis concentration (related to Antimony)

CERCLA: final RQ = 1000 pounds (454 kg)

**State Regulations****A: General Product Information**

No information available for the product.

**B: Component Analysis - State**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Fiber Glass Wool (related to Mineral wool fiber)	65997-17-3	Yes <sup>1</sup>	No	Yes <sup>1</sup>	Yes	No	Yes <sup>1</sup>
Antimony trioxide (may be in facing or adhesive)*	1309-64-4	Yes	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):  
WARNING! This product contains a chemical known to the state of California to cause cancer.

**Other Regulatory Information****A: General Product Information**

No information available for the product.

**B: TSCA Status**

This product and its components are listed on the TSCA 8(b) inventory.

None of the components listed in this product are listed on the TSCA Export Notification 12(b) list.

**C: Component Analysis - Inventory**

Component	CAS #	TSCA	DSL	EINECS
Fiber Glass Wool	65997-17-3	Yes	Yes	Yes
Urea extended phenol-formaldehyde resin (cured)	25104-55-6	Yes	Yes	No
Antimony trioxide (may be in facing or adhesive)*	1309-64-4	Yes	Yes	Yes

**International Regulations****A: General Product Information**

No information available for the product.

**B: Component Analysis - WHMIS IDL**

No components are listed in the WHMIS IDL.

**WHMIS Classification**

This material is a class D2A controlled product under Canadian WHMIS (Workplace Hazardous Materials Information System) regulations (based on the IARC 2B classification for Man-Made Vitreous Fiber wools). However a study released in 1993 by two Canadian agencies, Environment Canada and Health Canada, reported that fiber glass wool is unlikely to be carcinogenic to humans.

<b>Section 16 - Other Information</b>
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**Other Information**

Prepared for:  
Johns Manville Insulations Group  
Residential Insulation Division  
P. O. Box 5108  
Denver, CO USA 80217-5108

Prepared by:  
Johns Manville Technical Center  
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Littleton, CO USA 80162-5005

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

<b>Date</b>	<b>MSDS #</b>	<b>Reason</b>
08/01/00	1010-1.0000	New MSDS authoring system.
01/08/01	1010-1.0100	16-rev-01
03/09/01	1010-1.0101	Add EasyFit™ trade name

This is the end of MSDS # 1010

**Material Name: Fiber Glass Residential Insulation**

**Material Safety Data  
Sheet ID: 1010**



# Material Safety Data Sheet

Material Name: Fire Resistant Mineral Wool Insulation

MSDS No.: 15-MSD- 20887-01-C

## \*\*\* Section 1 - Chemical Product and Company Identification \*\*\*

**Product Name(s):** Sound Attenuation Fire Batts, Safing, Curtain Wall, Fire Batts, Wall Board, Structural Wool, Exterior Wall Board, Drainage Media, Rocdeck, MB Plus, Loose Fill Insulation, Cryogenic Wool

Owens Corning  
One Owens Corning Parkway, World Headquarters  
Attn. Product Stewardship  
Toledo, OH 43659, USA

### Emergency Contacts:

Emergencies ONLY (after 5pm ET and weekends): 1-419-248-5330,  
CHEMTREC (24 hours everyday): 1-800-424-9300,  
CANUTEC (Canada - 24 hours everyday): 1-613-996-6666.

### Health and Technical Contacts:

Health Issues Information (8am-5pm ET): 1-419-248-8234,  
Technical Product Information (8am-5pm ET): 1-800-GET-PINK.

## \*\*\* Section 2 - Composition / Information on Ingredients \*\*\*

CAS #	Component	Percent by Wt.
65997-17-3	Mineral Wool	95
25104-55-6	Urea, polymer with formaldehyde and phenol	2-5
8012-95-1	Lubricating oil	< 2
50-00-0	Formaldehyde	< 0.1

### Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Nuisance particulates, Rock wool.

### Component Information/Information on Non-Hazardous Components

No additional information available.

## \*\*\* Section 3 - Hazards Identification \*\*\*

**Appearance and Odor:** Commercial Board is solid, greenish/yellow. Loose Fill is greenish/gray.

### Emergency Overview

Acrid smoke may be generated in a fire. Exposure to dust may be irritating to eyes, nose, and throat.

### Potential Health Effects

#### Inhalation:

Mineral wool is a possible cancer hazard. Use of these products has not been shown to cause cancer in humans. Mineral wool caused cancer in animals through unnatural routes of exposure (surgical implantation), but has not produced significant cancer by inhalation. See Section 11 of MSDS for additional toxicological data.



## Material Safety Data Sheet

Material Name: Fire Resistant Mineral Wool Insulation

MSDS No.: 15-MSD- 20887-01-C

### Skin Contact:

Dusts and fibers from this product may cause temporary mechanical irritation to the skin.

### Eye Contact:

Dusts and fibers from this product may cause temporary mechanical irritation to the eyes.

### Ingestion:

Ingestion of this product is unlikely. However, ingestion of product may produce gastrointestinal irritation and disturbances.

### Medical Conditions Aggravated by Exposure:

Chronic respiratory or skin conditions may temporarily worsen from exposure to this products.

## \*\*\* Section 4 - First Aid Measures \*\*\*

### Inhalation:

If inhaled, remove the affected person to fresh air. If irritation persists get medical attention.

### Skin Contact:

For skin contact, wash with mild soap and running water. Use a wash cloth to help remove fibers. To avoid further irritation, do not rub or scratch affected areas. Rubbing or scratching may force fibers into the skin. If irritation persists get medical attention.

Never use compressed air to remove fibers from the skin.

### Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention.

### Ingestion:

Ingestion of this material is unlikely. If it does occur, watch the person for several days to make sure that partial or complete intestinal obstruction does not occur. Do not induce vomiting unless directed to do so by medical personnel.

## \*\*\* Section 5 - Fire Fighting Measures \*\*\*

**Flash Point:** None  
**Upper Flammability Limit:** Not applicable  
**Flammability Classification:** Non-flammable

**Flash Point Method:** Not applicable  
**Lower Flammability Limit:** Not applicable

### Extinguishing Media:

Use any extinguishing media appropriate for the surrounding fires.

### Unusual Fire & Explosion Hazards:

May release acrid smoke in a sustained fire.

### Fire-Fighting Instructions:

Use self-contained breathing apparatus (SCBA) and full bunker turnout gear in a sustained fire.

### Hazardous Combustion Products:

Primary combustion products are carbon monoxide, carbon dioxide, ammonia, and water. Other undetermined compounds could be released in small quantities.



## Material Safety Data Sheet

Material Name: Fire Resistant Mineral Wool Insulation

MSDS No.: 15-MSD- 20887-01-C

### \*\*\* Section 6 - Accidental Release Measures \*\*\*

#### Containment Procedures:

This material will settle out of the air. If concentrated on land, it can then be scooped up for disposal as a non-hazardous waste. This material will sink and disperse along the bottom of waterways and ponds. It can not easily be removed after it is waterborne; however, the material is non-hazardous in water.

#### Clean-Up Procedures:

Scoop up material and put into a suitable container for disposal as a non-hazardous waste.

#### Response Procedures:

Isolate area. Keep unnecessary personnel away.

#### Special Procedures:

None.

### \*\*\* Section 7 - Handling and Storage \*\*\*

#### Handling Procedures:

No special procedures are required for this material.

Keep product in its packaging, as long as practicable to minimize potential dust generation. Keep work areas clean. Avoid unnecessary handling of scrap materials by placing them in waste disposal containers and equipment, kept as to close working areas as possible, to prevent release of fibers and dust.

Avoid inhaling dusts or vapors produced during thermal processing. Avoid eye and excessive skin contact. Use only with adequate ventilation. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Special care must be taken to avoid buildup of dusts.

#### Storage Procedures:

No special procedures are required for this material.

### \*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\*

#### Exposure Guidelines:

##### A: General Product Information

Follow all applicable exposure limits.

##### B: Component Exposure Limits

ACGIH and OSHA exposure limit lists have been checked for those components with CAS registry numbers.

##### Mineral Wool (65997-17-3)

ACGIH: 1 f/cc TWA (for fibers longer than 5 um with a diameter less than 3 um); (Listed under "Synthetic vitreous fibers") (related to Slag wool fibers)  
10 mg/m<sup>3</sup> TWA (inhalable particulate); 3 mg/m<sup>3</sup> TWA (respirable particulate) (These values are for particulate matter containing no asbestos and <1% crystalline silica) (related to Particulates not otherwise classified (PNOC))

OSHA: 1 fiber/cc (respirable) TWA (a) (See Note Below) (related to Glass wool fiber)



# Material Safety Data Sheet

Material Name: Fire Resistant Mineral Wool Insulation

MSDS No.: 15-MSD- 20887-01-C

### Lubricating oil (8012-95-1)

ACGIH: 5 mg/m3 TWA (as oil mist)  
(10 mg/m3) STEL (as oil mist)  
OSHA: 5 mg/m3 TWA

### Formaldehyde (50-00-0)

ACGIH: C 0.3 ppm  
OSHA: 0.75 ppm TWA PEL; 2 ppm STEL; 0.5 ppm TWA action level; Irritant and potential cancer hazard (29 CFR 1910.1048)

**Notes:** (a) Voluntary PEL established by NAIMA and OSHA per the Health and Safety Partnership Program (HSPP) agreement for Synthetic Vitreous Fibers (SVF). Prior to the HSPP agreement, the OSHA 8 hr- TWA PELs for Particulates Not Otherwise Regulated (PNOR) of 15 mg/m3 (total particulate) and 5 mg/m3 (respirable particulate) applied to airborne glass wool fibers and dusts. These PELs were based on gravimetric measurements of airborne particulates including glass dusts and fibers.

NAIMA = North American Insulation Manufactures Association

### Ventilation:

General dilution ventilation and/or local exhaust ventilation should be provided as necessary to maintain exposures below regulatory limits. Dust collection systems should be used in operations involving cutting or machining and may be required in operations using power tools.

### PERSONAL PROTECTIVE EQUIPMENT

#### Respiratory Protection:

Respiratory Protection: Use a 3M Model 8210 (or 8710) (3M Model 9900 in high humidity environments) or equivalent under the following conditions: 1) installing or removing Loose Fill Insulation; 2) fabricating or Commercial Board; or 3) installing or removing Commercial board.

#### Skin Protection:

Normal work clothing (long sleeved shirts and long pants) is recommended. Use impervious gloves. Skin irritation is known to occur chiefly at the pressure points such as around the neck, wrists, waist and between the fingers.

#### Eyes/Face Protective Equipment:

Wear safety glasses or goggles.

## \* \* \* Section 9 - Physical & Chemical Properties \* \* \*

<p><b>Appearance:</b> Fibrous</p> <p><b>Physical State:</b> Solid</p> <p><b>Vapor Pressure (mm Hg @ 20 C):</b> Not applicable</p> <p><b>Boiling Point:</b> Not applicable</p> <p><b>Specific Gravity (Water=1):</b> Not applicable</p> <p><b>Evaporation Rate (n-Butyl Acetate=1):</b> Not applicable</p>	<p><b>Odor:</b> Organic</p> <p><b>pH:</b> Not applicable</p> <p><b>Vapor Density (Air=1):</b> Not applicable</p> <p><b>Solubility (H2O):</b> Insoluble</p> <p><b>Freezing Point:</b> Not applicable</p> <p><b>Viscosity:</b> Not applicable</p>
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### Physical Properties: Additional Information

No additional information available.



## Material Safety Data Sheet

Material Name: Fire Resistant Mineral Wool Insulation

MSDS No.: 15-MSD- 20887-01-C

### \*\*\* Section 10 - Chemical Stability & Reactivity Information \*\*\*

#### Stability:

This is a stable material.

#### Conditions to Avoid:

None expected.

#### Incompatible Materials:

This product reacts with hydrofluoric acid.

#### Hazardous Decomposition Products:

Primary combustion products are carbon monoxide, carbon dioxide, ammonia, and water. Other undetermined compounds could be released in small quantities.

#### Hazardous Polymerization:

Will not occur.

### \*\*\* Section 11 - Toxicological Information \*\*\*

#### Acute and Chronic Toxicity:

##### A: General Product Information

Dusts may cause mechanical irritation to eyes and skin. Ingestion may cause transient irritation of throat, stomach and gastrointestinal tract. Inhalation may cause coughing, nose and throat irritation, and sneezing. Higher exposures may cause difficulty breathing, congestion, and chest tightness.

##### B: Component Analysis - LD50/LC50

###### Urea, polymer with formaldehyde and phenol (25104-55-6)

Oral LD50 Rat : 7 gm/kg

Oral LD50 Mouse : 7 gm/kg

###### Lubricating oil (8012-95-1)

Oral LD50 Mouse : 22 gm/kg

###### Formaldehyde (50-00-0)

Inhalation LC50 Rat : 203 mg/m<sup>3</sup>

Inhalation LC50 Mouse : 454 mg/m<sup>3</sup>/4H

Oral LD50 Rat : 100 mg/kg

Oral LD50 Mouse : 42 mg/kg

Dermal LD50 Rabbit : 270 uL/kg

#### Carcinogenicity:

##### A: General Product Information

**Mineral Wool:** The International Agency for Research on Cancer (IARC) in June, 1987, classified mineral wool (rock/slag-wool) as "possibly carcinogenic to humans (Group 2B)". IARC's assessment said that there was "limited evidence for the carcinogenicity of rock/slag-wool in humans", "limited evidence for the carcinogenicity of rockwool in experimental animals", and "inadequate evidence for the carcinogenicity of slagwool in animals". The human data included large scale mortality studies of U.S. and European mineral wool factory workers.



## Material Safety Data Sheet

Material Name: Fire Resistant Mineral Wool Insulation

MSDS No.: 15-MSD- 20887-01-C

Animal inhalation experiments in which laboratory animals were exposed to large quantities of mineral wool fibers have not resulted in a positive association between mineral wool and lung cancer. Malignant tumors were produced in animals when large doses of mineral wool were implanted surgically or injected into the chest or abdomen bypassing the animal's natural defense mechanisms.

In a large lifetime animal inhalation study, minimal fibrosis (i.e. lung scarring) has been observed late in the lives of animals exposed to high concentrations of rockwool. Exposures were hundreds to thousands of times higher than currently seen in manufacturing and end-use environments.

The most recent update of the U.S. study reporting on deaths through 1989 was reported in early 1996. For the mineral wool cohort, elevated risk of death from respiratory system cancer and nonmalignant respiratory disease was observed in some of the cohort subgroups but there was no consistent evidence of an association between those elevated risks and respirable mineral wool fibers. There were no deaths from mesothelioma during the latest follow-up period.

**Formaldehyde:** In March 1987 the International Agency for Research on Cancer (IARC) upgraded their overall evaluation of formaldehyde gas, based on evidence of carcinogenicity in humans, from a possible human carcinogen (Group 2B based on inadequate evidence in humans) to a probable human carcinogen (Group 2A based on limited evidence in humans). A number of new epidemiological studies on persons in a variety of occupations with potential exposure to formaldehyde were used in the evaluation. Cancers that occurred in excess in more than one study are: Hodgkin's disease, leukemia, and cancers of the buccal cavity and pharynx (particularly nasopharynx), lung, nose, prostate, bladder, brain, colon, skin and kidney.

Exposure to formaldehyde at concentrations in excess of 1 ppm may cause significant irritation of the eyes and upper respiratory tract. The irritation threshold appears to be about 0.3 ppm. Pulmonary sensitization, although rare, does occur in humans. Formaldehyde solutions can cause severe eye and moderate skin irritation. Repeated skin exposure to solutions of 2% or more formaldehyde has caused allergic skin reactions. Formaldehyde was found to be weakly active in a number of in vitro genotoxicity tests, but inactive in vivo. Formaldehyde did not cause birth defects in offspring of female mice who were exposed to concentrations up to 10 ppm. Lifetime inhalation of formaldehyde at concentrations above 5 ppm for 6 hours per day, caused nasal tumors in laboratory animals. Many epidemiological studies have failed to link cancer in humans with occupational exposure to formaldehyde.

The American Conference of Governmental Industrial Hygienists (ACGIH) A2 designation, suspected human carcinogen, is based on cancer in experimental animals and conflicting or insufficient epidemiologic studies of workers. The recommended ceiling TLV of 0.3 ppm for workplace air formaldehyde is based on evidence of irritation of occupational exposure to formaldehyde as well as human formaldehyde exposures in other settings.

### B: Component Carcinogenicity

ACGIH, IARC, OSHA, and NTP carcinogen lists have been checked for those components with CAS registry numbers.

#### Mineral Wool (65997-17-3)

ACGIH: A3 - animal carcinogen (related to rock wool fibers)

IARC: Monograph 43, 1988 (related to rock wool) (Group 2B (possibly carcinogenic to humans))

#### Lubricating oil (8012-95-1)

IARC: Supplement 7, 1987; Monograph 33, 1984 (Group 3 (not classifiable))



## Material Safety Data Sheet

Material Name: Fire Resistant Mineral Wool Insulation

MSDS No.: 15-MSD- 20887-01-C

### Formaldehyde (50-00-0)

ACGIH: A2 - suspected human carcinogen

OSHA: 0.75 ppm TWA PEL; 2 ppm STEL; 0.5 ppm TWA action level; Irritant and potential cancer hazard (29 CFR 1910.1048)

NTP: Suspect Carcinogen (Possible Select Carcinogen)

IARC: Monograph 62, 1995 (Group 2A (probably carcinogenic to humans))

## \*\*\* Section 12 - Ecological Information \*\*\*

### Ecotoxicity:

#### A: General Product Information

No data available for this product. This material is not expected to cause harm to animals, plants or fish.

#### B: Component Analysis - Ecotoxicity - Aquatic Toxicity

##### Formaldehyde (50-00-0)

LC50 (96 hr) fathead minnow:24.1 mg/L. Cond:Flow-through, 21.7 degrees C, pH 6.8, 50.8 mg/L CaCO<sub>3</sub>.;LC50 (96 hr) bluegill:0.10 mg/L. Cond:Flow-through.

### Environmental Fate:

No data available for this product.

## \*\*\* Section 13 - Disposal Considerations \*\*\*

### US EPA Waste Number & Descriptions:

#### A: General Product Information

Material, if discarded, is not expected to be a characteristic hazardous waste under RCRA.

#### B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

### Disposal Instructions:

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

## \*\*\* Section 14 - Transportation Information \*\*\*

### US DOT Information

**Shipping Name:** Not regulated for transport.

**Hazard Class:** None

**UN/NA #:** None

**Packing Group:** None

**Required Label(s):** None

**Additional Info.:** None

### TDG Information

**Shipping Name:** Not regulated for transport.

**Hazard Class:** None

**UN/NA #:** None

**Packing Group:** None

**Required Label(s):** None

**Additional Info.:** None



# Material Safety Data Sheet

Material Name: Fire Resistant Mineral Wool Insulation

MSDS No.: 15-MSD- 20887-01-C

Additional Transportation Regulations:  
No additional information available.

**\*\*\* Section 15 - Regulatory Information \*\*\***

**US Federal Regulations:**

**A: General Product Information**

No additional information available. Formaldehyde content is below the SARA 313 0.1% "de minimis concentration"

**B: Component Analysis**

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

**Mineral Wool (65997-17-3)**

CERCLA: Includes mineral fiber emissions from facilities manufacturing or processing glass rock or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less; Statutory RQ = 1 pound (.454 kg); no final RQ is being assigned to the generic or broad class (related to Fine mineral fibers)

**Formaldehyde (50-00-0)**

SARA 302: TPQ = 500 pounds; RQ = 100 pounds (does not meet toxicity criteria but because of high production volume and recognized toxicity is considered a chemical of concern)

CERCLA: final RQ = 100 pounds (45.4 kg)

**SARA 311/312**

**Acute Health Hazard:** Yes  
**Chronic Health Hazard:** Yes  
**Fire Hazard:** No  
**Sudden Release of Pressure Hazard:** No  
**Reactive Hazard:** No

**C: Clean Air Act**

The following components appear on the Clean Air Act-1990 Hazardous Air Pollutants List:

Component	CAS	CAA
Mineral Wool ( related to Fine mineral fibers)	65997-17-3	Yes
Formaldehyde	50-00-0	Yes

**State Regulations:**

**A: General Product Information**

No additional information available.

**B: Component Analysis - State**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Mineral Wool ( related to Mineral wool fiber)	65997-17-3	Yes <sup>1</sup>	No	Yes <sup>1</sup>	Yes <sup>1</sup>	No	Yes <sup>1</sup>
Lubricating oil	8012-95-1	Yes	No	Yes	Yes	No	Yes
Formaldehyde	50-00-0	Yes	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.



# Material Safety Data Sheet

Material Name: Fire Resistant Mineral Wool Insulation

MSDS No.: 15-MSD- 20887-01-C

## Other Regulations:

### A: General Product Information

No additional information available.

### B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Mineral Wool	65997-17-3	Yes	Yes	Yes
Urea, polymer with formaldehyde and phenol	25104-55-6	Yes	Yes	No
Lubricating oil	8012-95-1	Yes	Yes	Yes
Formaldehyde	50-00-0	Yes	Yes	Yes

### C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	
Lubricating oil	8012-95-1	1% item 1224 (977)

**WHMIS Status:** Controlled

**WHMIS Classification:** D2A- Carcinogenicity

D2B- Irritation

## \*\*\* Section 16 - Other Information \*\*\*

HMIS and NFPA Hazard Ratings:	Category	HMIS	NFPA
	Acute Health	1*	2
	Flammability	1	2 (facing, packaging)
	Reactivity	0	0

**NFPA Unusual Hazards** None

**HMIS Personal Protection** To be supplied by user depending upon use.

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

### Key/Legend:

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act; DSL = Canadian Domestic Substance List; EINECS = European Inventory of New and Existing Chemical Substances; WHMIS = Workplace Hazardous Materials Information System; CAA = Clean Air Act

### Revision Summary:

This is a revised MSDS which replaces 15-MSD-20887-01-B with new formatting, updated product names, and clarified exposure limits. Read this information carefully

Get OC MSDS electronically via Internet: <http://owenscorning.mtcibs.com> or by calling 1-419-248-8234.

This is the end of MSDS # 15-MSD-20887-01-C



# Material Safety Data Sheet

Material Name: Low Density Fiber Glass Insulation

MSDS No.: 15-MSD- 13614-01-N

## \*\*\* Section 1 - Chemical Product and Company Identification \*\*\*

**Product Name(s):** Acoustical Backing Board, Advanced ThermaCube Plus®, AF & WH Water Heater, All Service Faced Duct Wrap, Attic Blanket, AW, AWS, Base Cap Roof, BASECLAD Basement, Blended Blowing Wool, CA Series, Cathedral Batt Insulation, Cavity Wall, Cold Storage Wall, Curtain Wall 225, Diffuser Board, Dishwasher, Duct Board, DRAINCLAD, Duct Liner Board, EA-30 and HV Equipment, Extended Flange 25, Faced Duct Wrap Insulation, Faced Flexible Duct, Flame Spread 25, Flexible Concrete Curing, Flexible Marine, Flexible Type 75 AF-FDM, Formboard, FS 25 Hi-Perm Residential/Commercial Insulation, GLAS-PLUS, GLASCLAD Exterior Sheathing, Hullboard, Insulation Batts, Lydall, Manufactured Housing Duct Board, Manufactured Housing Insulation, Masonry Wall Insulation, Metal Building (all types), Metal Framing Batts, Metal Framing Insulation, Molding Media P-80 Basic, Multi-purpose Insulation, NC Roof, NOISE Stop Blanket, Noise Stop Board, Pink Pak, PinkPlus®, Pipe Wrap Insulation, PL Marine, Quiet Zone Acoustic Batt, RA Series, RC Roof Board, Residential Building, Rigid Coated Duct, Roof Insulation, Shaft Wall, Sidewall Batt Insulation, Sill Sealer, Sonobatts, Sound Attenuation Batts, Standard Blend, Steel Stud, Super Pink R Blowing Wool, ThermaGlas®, Torch Safe Insulation, Type YM, TW-MC Marine Wall Insulation, Unfaced Duct Wrap, Vapour Seal, Warm-N-Dri®, Water Heater Blanket, Water Heater Top Insulation, Wide Flute, YELLOW JACKET™ Fiber Glass Insulation, and YELLOW JACKET™ Loose Fill.

Owens Corning  
One Owens Corning Parkway, World Headquarters  
Attn. Product Stewardship  
Toledo, OH 43659, USA

### Emergency Contacts:

Emergencies ONLY (after 5pm ET and weekends): 1-419-248-5330,  
CHEMTREC (24 hours everyday): 1-800-424-9300,  
CANUTEC (Canada - 24 hours everyday): 1-613-996-6666.

### Health and Technical Contacts:

Health Issues Information (8am-5pm ET): 1-419-248-8234,  
Technical Product Information (8am-5pm ET): 1-800-GET-PINK.

## \*\*\* Section 2 - Composition / Information on Ingredients \*\*\*

CAS #	Component	Percent by Wt.
65997-17-3	Fiber Glass Wool (Fibrous Glass)	85-96
25104-55-6	Urea, polymer with formaldehyde and phenol	4-15
50-00-0	Formaldehyde	< 0.1

### Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Fiber Glass wool, Fibrous glass, Nuisance particulates.

### Component Information/Information on Non-Hazardous Components

No additional information available.

## \*\*\* Section 3 - Hazards Identification \*\*\*

**Appearance and Odor:** Pink, yellow, or tan fibrous material with faint resin odor. Some products have a vinyl, brown paper, foil or polypropylene facing.



# Material Safety Data Sheet

Material Name: Low Density Fiber Glass Insulation

MSDS No.: 15-MSD- 13614-01-N

## Emergency Overview

Fire may cause hydrogen chloride to be released from vinyl faced products. Exposure to dust may be irritating to eyes, nose, and throat.

## Potential Health Effects

### Inhalation:

Dusts and fibers from this product may cause mechanical irritation of the nose, throat, and respiratory tract.

Fiber glass wool is a possible cancer hazard. Use of these products has not been shown to cause cancer in humans. Fiber glass wool caused cancer in animals through unnatural routes of exposure (surgical implantation), but has not produced cancer by inhalation.

### Skin Contact:

Dusts and fibers from this product may cause temporary mechanical irritation to the skin.

### Eye Contact:

Dusts and fibers from this product may cause temporary mechanical irritation to the eyes.

### Ingestion:

Ingestion of this product is unlikely. However, ingestion of product may produce gastrointestinal irritation and disturbances.

### Medical Conditions Aggravated by Exposure:

Chronic respiratory or skin conditions may temporarily worsen from exposure to this products.

## \* \* \* Section 4 - First Aid Measures \* \* \*

### Inhalation:

If inhaled, remove the affected person to fresh air. If irritation persists get medical attention.

### Skin Contact:

For skin contact, wash with mild soap and running water. Use a wash cloth to help remove fibers. To avoid further irritation, do not rub or scratch affected areas. Rubbing or scratching may force fibers into the skin. If irritation persists get medical attention.

Never use compressed air to remove fibers from the skin. If fibers are seen penetrating from the skin, the fibers can be removed by applying and removing adhesive tape so that the fibers adhere to the tape and are pulled out of the skin.

### Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention.

### Ingestion:

Ingestion of this material is unlikely. If it does occur, watch the person for several days to make sure that partial or complete intestinal obstruction does not occur. Do not induce vomiting unless directed to do so by medical personnel.

## \* \* \* Section 5 - Fire Fighting Measures \* \* \*

**Flash Point:** None  
**Upper Flammability Limit:** Not applicable  
**Flammability Classification:** Non-flammable

**Flash Point Method:** Not applicable  
**Lower Flammability Limit:** Not applicable

### Extinguishing Media:

Dry chemical, foam, carbon dioxide, water fog.

### Unusual Fire & Explosion Hazards:

Vinyl faced products will release hydrogen chloride in a fire.

### Fire-Fighting Instructions:

Use self-contained breathing apparatus (SCBA) and full bunker turnout gear in a sustained fire.



## Material Safety Data Sheet

Material Name: Low Density Fiber Glass Insulation

MSDS No.: 15-MSD- 13614-01-N

### Hazardous Combustion Products:

Primary combustion products are carbon monoxide, carbon dioxide, ammonia, and water. Other undetermined compounds could be released in small quantities.

### \*\*\* Section 6 - Accidental Release Measures \*\*\*

### Containment Procedures:

This material will settle out of the air. If concentrated on land, it can then be scooped up for disposal as a non-hazardous waste. This material will sink and disperse along the bottom of waterways and ponds. It can not easily be removed after it is waterborne; however, the material is non-hazardous in water.

### Clean-Up Procedures:

Scoop up material and put into a suitable container for disposal as a non-hazardous waste.

### Response Procedures:

Isolate area. Keep unnecessary personnel away.

### Special Procedures:

None.

### \*\*\* Section 7 - Handling and Storage \*\*\*

### Handling Procedures:

No special procedures are required for this material.

Keep product in its packaging, as long as practicable to minimize potential dust generation. Keep work areas clean. Avoid unnecessary handling of scrap materials by placing them in waste disposal containers and equipment, kept as to close working areas as possible, to prevent release of fibers and dust.

Avoid inhaling dusts or vapors produced during thermal processing. Avoid eye and excessive skin contact. Use only with adequate ventilation. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Special care must be taken to avoid buildup of dusts.

### Storage Procedures:

No special procedures are required for this material.

### \*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\*

### Exposure Guidelines:

#### A: General Product Information

Follow all applicable exposure limits.

#### B: Component Exposure Limits

ACGIH and OSHA exposure limit lists have been checked for those components with CAS registry numbers.

#### Fiber Glass Wool (Fibrous Glass) (65997-17-3)

- ACGIH: 1 f/cc TWA for respirable fibers longer than 5 um with a diameter less than 3 um;  
(Listed under "Synthetic vitreous fibers") (related to Glass wool fibers)  
10 mg/m<sup>3</sup> TWA (inhalable particulate); 3 mg/m<sup>3</sup> TWA (respirable particulate) (These values are for particulate matter containing no asbestos and <1% crystalline silica) (related to Particulates not otherwise classified (PNOC))
- OSHA: 1 fiber/cc (respirable) TWA (a) (See Note Below) (related to Glass wool fiber)

#### Formaldehyde (50-00-0)

- ACGIH: C 0.3 ppm
- OSHA: 0.75 ppm TWA PEL; 2 ppm STEL; 0.5 ppm TWA action level; Irritant and potential cancer hazard (29 CFR 1910.1048)

**Notes:** (a) Voluntary PEL established by NAIMA and OSHA per the Health and Safety Partnership Program (HSPP) agreement for Synthetic Vitreous Fibers (SVF). Prior to the HSPP agreement, the OSHA 8 hr- TWA PELs for Particulates Not Otherwise Regulated (PNOR) of 15 mg/m<sup>3</sup> (total particulate) and 5 mg/m<sup>3</sup> (respirable



# Material Safety Data Sheet

Material Name: Low Density Fiber Glass Insulation

MSDS No.: 15-MSD- 13614-01-N

particulate) applied to airborne glass wool fibers and dusts. These PELs were based on gravimetric measurements of airborne particulates including glass dusts and fibers.

NAIMA = North American Insulation Manufactures Association

### Ventilation:

General dilution ventilation and/or local exhaust ventilation should be provided as necessary to maintain exposures below regulatory limits. Dust collection systems should be used in operations involving cutting or machining and may be required in operations using power tools.

### PERSONAL PROTECTIVE EQUIPMENT

#### Respiratory Protection:

3M Model 8210 (formerly 8710) (3M Model 9900 in high humidity environments) or equivalent under the following conditions: 1) installing loosefill, 2) in any poorly ventilated space, 3) fabrication involving power tools, 4) any dusty environment.

#### Skin Protection:

Normal work clothing (long sleeved shirts and long pants) is recommended. Use impervious gloves. Skin irritation is known to occur chiefly at the pressure points such as around the neck, wrists, waist and between the fingers.

#### Eyes/Face Protective Equipment:

Wear safety glasses or goggles.

## \*\*\* Section 9 - Physical & Chemical Properties \*\*\*

<b>Appearance:</b>	Fibrous	<b>Odor:</b>	Organic
<b>Physical State:</b>	Solid	<b>pH:</b>	Not applicable
<b>Vapor Pressure (mm Hg @ 20 C):</b>	Not applicable	<b>Vapor Density (Air=1):</b>	Not applicable
<b>Boiling Point:</b>	Not applicable	<b>Solubility (H2O):</b>	Insoluble
<b>Specific Gravity (Water=1):</b>	Not applicable	<b>Freezing Point:</b>	Not applicable
<b>Evaporation Rate (n-Butyl Acetate=1):</b>	Not applicable	<b>Viscosity:</b>	Not applicable

### Physical Properties: Additional Information

No additional information available.

## \*\*\* Section 10 - Chemical Stability & Reactivity Information \*\*\*

### Stability:

This is a stable material.

### Conditions to Avoid:

None expected.

### Incompatible Materials:

None expected.

### Hazardous Decomposition Products:

Primary combustion products are carbon monoxide, carbon dioxide, ammonia, and water. Other undetermined compounds could be released in small quantities.

### Hazardous Polymerization:

Will not occur.

## \*\*\* Section 11 - Toxicological Information \*\*\*

### Acute and Chronic Toxicity:

#### A: General Product Information

No information available for the product. Dusts may cause mechanical irritation to eyes and skin. Ingestion may cause transient irritation of throat, stomach and gastrointestinal tract. Inhalation may cause coughing, nose and throat irritation, and sneezing. Higher exposures may cause difficulty breathing, congestion, and chest tightness.



## Material Safety Data Sheet

Material Name: Low Density Fiber Glass Insulation

MSDS No.: 15-MSD- 13614-01-N

### B: Component Analysis - LD50/LC50

#### Urea, polymer with formaldehyde and phenol (25104-55-6)

Oral LD50 Rat : 7 gm/kg

Oral LD50 Mouse : 7 gm/kg

#### Formaldehyde (50-00-0)

Inhalation LC50 Rat : 203 mg/m<sup>3</sup>

Inhalation LC50 Mouse : 454 mg/m<sup>3</sup>/4H

Oral LD50 Rat : 100 mg/kg

Oral LD50 Mouse : 42 mg/kg

Dermal LD50 Rabbit : 270 uL/kg

### Carcinogenicity:

#### A: General Product Information

No information available for the product.

**Fiber Glass Wool:** The International Agency for Research on Cancer (IARC) in June, 1987, classified fiber glass wool as a possible cancer causing agent to humans (Group 2B). This classification was based on a combined evaluation of published human and animal studies. The human data included large scale mortality studies of U.S. and European fiber glass wool factory workers. IARC concluded that human studies did not provide sufficient evidence that fiber glass wool caused cancer in humans. The classification of fiber glass wool as a possible carcinogen to humans was substantially based on experimental animal studies in which they were exposed to wool glass fibers through non-natural routes, such as injection or implantation. IARC regards it prudent to treat a material with sufficient evidence of carcinogenicity in animals as if it is a carcinogen in humans.

In May 1997, the American Conference of Governmental Industrial Hygienists (ACGIH) adopted an A3 carcinogen classification for synthetic vitreous fibers-glass wool insulation. The classification is the result of a lengthy review process.

The ACGIH A3 classification considers glass wool to be carcinogenic in experimental animals at relatively high doses, by routes of administration, at sites, or by mechanisms that it does not consider relevant to worker exposure. It also reviewed the available epidemiological studies and concluded that they do not confirm an increased risk of cancer in exposed humans. Overall, the ACGIH found that the available medical/scientific evidence suggests that glass wool is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

The TLV-TWA of 1 respirable fiber/cc was adopted for fiber glass wool to prevent irritation of the respiratory tract or any possible long-term respiratory health effects in workers.

#### ANIMAL STUDIES:

Over the last 50+ years there have been numerous studies on the potential health effects of glass fibers in animals. There are two major types of animal studies: 1) inhalation where the animals breath glass wool fibers, and 2) instillation studies where the fibers are injected or surgically implanted directly into the animal. Inhalation is most similar to the way that humans are exposed to fibers.

Animal inhalation experiments in which laboratory animals were exposed to large quantities of glass wool fibers have not resulted in a positive association between glass fibers and fibrosis, lung cancer, or mesothelioma. When large quantities of glass wool fibers were injected or surgically implanted into sterile, sensitive body cavities of experimental animals, they have produced mesotheliomas, but not fibrosis or lung cancer.

Another type of glass fibers, special purpose, in 1997, for the first time, produced fibrosis, lung cancer and mesothelioma in rats. Those special purpose glass fibers were different from these glass wool fibers in composition, biosolubility and end use.



## Material Safety Data Sheet

Material Name: Low Density Fiber Glass Insulation

MSDS No.: 15-MSD- 13614-01-N

All glass wool fibers manufactured by Owens Corning are designed not to be biopersistent. That is, should they be respired into the lungs, they will be removed by either the lung's mechanical clearance mechanisms or be dissolved, in such a short period of time, that they will not cause fibrosis, lung cancer, or mesothelioma.

### EPIDEMIOLOGY:

There have been numerous studies of workers exposed to glass wool. A small study of Canadian glass wool workers reported a statistically significant increase in lung cancer mortality. The study did not demonstrate a correlation between fiber glass wool exposure and disease.

Large scale studies published in 1987 which examined the mortality rates of U.S. and European fiber glass wool factory workers found no statistically significant differences in lung cancer rates between those workers and the populations in their local or regional communities. A 1990 update of the U.S. cohort reported a small statistically significant excess for respiratory cancer in workers when compared with populations in their local communities. While the overall mortality rates in these mortality studies were slightly raised and did increase (but not significantly) with time since the first exposure, the increases were not related to duration of exposure or to an estimated time weighted measure of exposure.

Georgetown University recently studied the oldest and largest fiber glass plant in the U.S. The results indicate that smoking was the likely cause of this cancer excess. A study at the University of Massachusetts is investigating other possible factors.

A large recently completed morbidity study reported no association with fiber glass exposure and non-malignant respiratory disease. Another smaller screening of workers at a plant that manufactured appliances concluded that fiber glass wool appeared to produce "asbestosis" in the workers. That study has been severely criticized for many reasons, not the least of which is its failure to factor in the workers exposures to asbestos.

**Formaldehyde:** In March 1987 the International Agency for Research on Cancer (IARC) upgraded their overall evaluation of formaldehyde gas, based on evidence of carcinogenicity in humans, from a possible human carcinogen (Group 2B based on inadequate evidence in humans) to a probable human carcinogen (Group 2A based on limited evidence in humans). A number of new epidemiological studies on persons in a variety of occupations with potential exposure to formaldehyde were used in the evaluation. Cancers that occurred in excess in more than one study are: Hodgkin's disease, leukemia, and cancers of the buccal cavity and pharynx (particularly nasopharynx), lung, nose, prostate, bladder, brain, colon, skin and kidney.

Exposure to formaldehyde at concentrations in excess of 1 ppm may cause significant irritation of the eyes and upper respiratory tract. The irritation threshold appears to be about 0.3 ppm. Pulmonary sensitization, although rare, does occur in humans. Formaldehyde solutions can cause severe eye and moderate skin irritation. Repeated skin exposure to solutions of 2% or more formaldehyde has caused allergic skin reactions. Formaldehyde was found to be weakly active in a number of in vitro genotoxicity tests, but inactive in vivo. Formaldehyde did not cause birth defects in offspring of female mice who were exposed to concentrations up to 10 ppm. Lifetime inhalation of formaldehyde at concentrations above 5 ppm for 6 hours per day, caused nasal tumors in laboratory animals. Many epidemiological studies have failed to link cancer in humans with occupational exposure to formaldehyde.

The American Conference of Governmental Industrial Hygienists (ACGIH) A2 designation, suspected human carcinogen, is based on cancer in experimental animals and conflicting or insufficient epidemiological studies of workers. The recommended ceiling TLV of 0.3 ppm for workplace air formaldehyde is based on evidence of irritation of occupational exposure to formaldehyde as well as human formaldehyde exposures in other settings.



## Material Safety Data Sheet

Material Name: Low Density Fiber Glass Insulation

MSDS No.: 15-MSD- 13614-01-N

### B: Component Carcinogenicity

ACGIH, IARC, OSHA, and NTP carcinogen lists have been checked for those components with CAS registry numbers.

#### Fiber Glass Wool (Fibrous Glass) (65997-17-3)

ACGIH: A3 - animal carcinogen (related to Glass wool fibers)  
NTP: Suspect Carcinogen (related to Glasswool) (Possible Select Carcinogen)  
IARC: Monograph 43, 1988 (related to Glasswool) (Group 2B (possibly carcinogenic to humans))

#### Formaldehyde (50-00-0)

ACGIH: A2 - suspected human carcinogen  
OSHA: 0.75 ppm TWA PEL; 2 ppm STEL; 0.5 ppm TWA action level; Irritant and potential cancer hazard (29 CFR 1910.1048)  
NTP: Suspect Carcinogen (Possible Select Carcinogen)  
IARC: Monograph 62, 1995 (Group 2A (probably carcinogenic to humans))

### \*\*\* Section 12 - Ecological Information \*\*\*

#### Ecotoxicity:

##### A: General Product Information

No data available for this product. This material is not expected to cause harm to animals, plants or fish.

##### B: Component Analysis - Ecotoxicity - Aquatic Toxicity

###### Formaldehyde (50-00-0)

LC50 (96 hr) fathead minnow: 24.1 mg/L. Cond: Flow-through, 21.7 degrees C, pH 6.8, 50.8 mg/L CaCO<sub>3</sub>.; LC50 (96 hr) bluegill: 0.10 mg/L. Cond: Flow-through.; EC50 (96 hr) water flea: 20 mg/L.; EC50 (30 min) Photobacterium phosphoreum: 3.00-10.2 mg/L Microtox test.

#### Environmental Fate:

No data available for this product.

### \*\*\* Section 13 - Disposal Considerations \*\*\*

#### US EPA Waste Number & Descriptions:

##### A: General Product Information

Material, if discarded, is not expected to be a characteristic hazardous waste under RCRA.

##### B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

#### Disposal Instructions:

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

### \*\*\* Section 14 - Transportation Information \*\*\*

#### US DOT Information

**Shipping Name:** Not regulated for transport.

**Hazard Class:** None

**UN/NA #:** None

**Packing Group:** None

**Required Label(s):** None

**Additional Info.:** None

#### TDG Information

**Shipping Name:** Not regulated for transport.

**Hazard Class:** None



# Material Safety Data Sheet

Material Name: Low Density Fiber Glass Insulation

MSDS No.: 15-MSD- 13614-01-N

UN/NA #: None  
Packing Group: None  
Required Label(s): None  
Additional Info.: None

Additional Transportation Regulations:  
No additional information available.

**\*\*\* Section 15 - Regulatory Information \*\*\***

## US Federal Regulations:

### A: General Product Information

No additional information available. Formaldehyde content is below the SARA 313 0.1% "de minimis concentration"

### B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

#### Fiber Glass Wool (Fibrous Glass) (65997-17-3)

CERCLA: Includes mineral fiber emissions from facilities manufacturing or processing glass rock or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less; Statutory RQ = 1 pound (.454 kg); no final RQ is being assigned to the generic or broad class (related to Fine mineral fibers)

#### Formaldehyde (50-00-0)

SARA 302: TPQ = 500 pounds; RQ = 100 pounds (does not meet toxicity criteria but because of high production volume and recognized toxicity is considered a chemical of concern)

SARA 313: form R reporting required if 0.1% de minimis concentration exceeded

CERCLA: final RQ = 100 pounds (45.4 kg)

#### SARA 311/312

Acute Health Hazard: Yes

Chronic Health Hazard: Yes

Fire Hazard: No

Sudden Release of Pressure Hazard: No

Reactive Hazard: No

### C: Clean Air Act

The following components appear on the Clean Air Act-1990 Hazardous Air Pollutants List:

Component	CAS	CAA
Fiber Glass Wool (Fibrous Glass) (related to Fine mineral fibers)	65997-17-3	Yes
Formaldehyde	50-00-0	Yes

## State Regulations:

### A: General Product Information

No additional information available.



# Material Safety Data Sheet

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MSDS No.: 15-MSD- 13614-01-N

## B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Fiber Glass Wool (Fibrous Glass) (1 related to Mineral wool fiber)	65997-17-3	Yes <sup>1</sup>	No	Yes <sup>1</sup>	Yes <sup>1</sup>	No	Yes <sup>1</sup>
Formaldehyde	50-00-0	Yes	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

## Other Regulations:

### A: General Product Information

No additional information available.

### B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Fiber Glass Wool (Fibrous Glass)	65997-17-3	Yes	Yes	Yes
Urea, polymer with formaldehyde and phenol	25104-55-6	Yes	Yes	No
Formaldehyde	50-00-0	Yes	Yes	Yes

### C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	
Fiber Glass Wool (Fibrous Glass)	65997-17-3	1% item 768 (884) (related to Fibrous glass)

WHMIS Status: Controlled

WHMIS Classification: D2A- Carcinogenicity

D2B- Irritation

## \*\*\* Section 16 - Other Information \*\*\*

HMIS and NFPA Hazard Ratings:	Category	HMIS	NFPA
	Acute Health	1	2
	Flammability	0	2 (facing, packaging)
	Reactivity	0	0

NFPA Unusual Hazards None

HMIS Personal Protection To be supplied by user depending upon use.

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.



## Material Safety Data Sheet

Material Name: Low Density Fiber Glass Insulation

MSDS No.: 15-MSD- 13614-01-N

### Key/Legend:

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act; DSL = Canadian Domestic Substance List; EINECS = European Inventory of New and Existing Chemical Substances; WHMIS = Workplace Hazardous Materials Information System; CAA = Clean Air Act

### Revision Summary:

This is a revised MSDS which replaces 15-MSD-13614-01-M with new formatting and updated product names. Read this information carefully.

Get OC MSDS electronically via Internet: <http://owenscorning.mtcibs.com> or by calling 1-419-248-8234.

This is the end of MSDS # 13614-01-N